

Remarks**Objection to the Specification**

The examiner objected to the specification in that the first paragraph did not reflect the current status of the parent application. Appropriate correction has been made. A housekeeping amendment also is made to paragraph [0010].

Rejections Under 35 U.S.C. § 112

The examiner issued a number of rejections under 35 U.S.C. § 112. New claims 103-106 are believed to overcome the rejections with respect to claims 1, 58, and 88. The amendment to claim 96 is believed to overcome the rejection to claim 96.

Rejections Under 35 U.S.C. § 102

The examiner rejected claims 1, 4, 7-9, 48-65 and 86-100 as anticipated by U.S. Patent No. 5,169,515 to Ngan.

Response

In order to establish a case of *prima facie* anticipation, the examiner must establish that a prior art reference discloses every limitation of the claimed invention either explicitly or inherently. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed. Cir. 1999). The examiner has not pointed to a teaching or suggestion of every limitation of the amended claims in Ngan.

The examiner has not pointed to a teaching in Ngan of a metallic component comprising the claimed gradient where the substrate is (a) "a chromium alloy substrate other than stainless steel" (claims 103 and 104, specification at p. 3, ¶ 10) or, (b) a metallic substrate comprising a "chromium coating" (claims 105 and 106). With respect to chromium coatings, the specification explains that:

Suitable chromium coatings for treatment according to the invention are formed on a substrate using any known means. Examples include, but are not necessarily limited to electroplating, thermal vapor deposition, sputtering, and pulsed laser deposition. Preferably, the coatings are formed by conventional electroplating. The chromium coating may be a single layer coating, or a multilayered coating. Examples of suitable multilayered coatings include, but are not necessarily limited to coatings of alternating layers of Ti and Cr, alternating layers of chromium and amorphous carbon, and the like. Multilayer coatings may be made using any known means, such as alternate vapor or sputter deposition of components.

Specification, p. 3, ll. 10-18.

Ngan is directed to "[a] process for heat treatment of **high temperature steels** in which the steels are heated to a temperature of at least 1800 °F, in the presence of hydrogen gas, methane, hydrogen sulfide, and steam." Ngan, Abstract (emphasis added).

As seen from the foregoing, the examiner has not pointed to a teaching in Ngan of a substrate comprising a surface comprising the claimed gradient wherein the substrate comprises (a) "a chromium alloy substrate other than stainless steel" (claims 103 and 104) or, (b) a metallic substrate comprising a "chromium coating" (claims 105 and 106).

Applicant respectfully requests that the rejection of the claims as anticipated under 35 U.S.C. § 102 over Ngan be withdrawn.

Rejections under 35 U.S.C. § 102/103 over Ngan

The examiner also rejected claims 10-24 and 66-83 as anticipated by or obvious over Ngan.

**-The examiner has not established a case of
prima facie anticipation of claims 10-24 and 66-83 over Ngan**

Claims 10-24 and 66-83 now depend from allowable base claims and are allowable therewith. The examiner has not pointed to a teaching or suggestion of the properties specified in claims 10-24 and 66-83 in Ngan or elsewhere.

The examiner has not pointed to the structure specified in new claims 103-106 for the reasons discussed above. Even if the examiner had pointed to the claimed structure, where a property of a structure appears in a claim, the examiner cannot establish a case of *prima facie* anticipation merely by establishing that a reference discloses the same structure as a claimed apparatus. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d 1917, 1922-1923 (Fed Cir. 2002), *reh'g denied* 2002 U.S. Lexis 13283 (Fed. Cir. June 10, 2002). In *Crown*, the claims at issue required a solar control film that contributed no more than about two percent visible reflectance. Crown argued that the patent in suit "merely claims a preexisting property inherent in the structure disclosed in the prior art." *Id.* at 1922. The Federal Circuit refused to accept Crown's proposition that, where a prior art reference discloses the same structure as claimed by a patent, a claimed property of the structure should be assumed. The Federal Circuit held that "[i]f the two percent limitation is inherently disclosed in the Gillery patent, it must be necessarily present and a person of ordinary skill in the art would recognize its presence." *Id.* at 1922-1923 (emphasis added).

As in *Crown*, if the properties recited in claims 10-24 and 66-83 are inherently disclosed in Ngan, then the examiner must establish that those properties necessarily are present in Ngan and that a person of ordinary skill in the art would recognize their presence. The examiner has not met this burden.

**-The examiner has not established a case of
prima facie obviousness of claims 10-24 and 66-83 over Ngan**

In order to establish that the claims are *prima facie* obvious over Ngan, the examiner must point to two things in Ngan, and not in the applicant's disclosure--(1) the suggestion of the invention, and (2) the expectation of its success. *In re Vaack*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991).

The examiner has not pointed to a teaching or suggestion of the invention in Ngan because the examiner has not pointed to a teaching or suggestion in Ngan of a metallic component comprising a surface comprising the claimed gradient where the substrate is (a) "a chromium alloy substrate other than stainless steel" (claims 103 and 104) or, (b) a metallic component comprising a "chromium coating" (claims 105 and 106). Nor has the examiner pointed to a teaching or suggestion in Ngan that would motivate a person of ordinary skill in the art to modify Ngan in the manner required to result in the claimed metallic component. The examiner therefore has not established a case of *prima facie* obviousness of claims 10-24 and 66-83 over Ngan. *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

It is legally incorrect for the examiner to simply assume that Ngan inherently meets the limitations of claims 10-24 and 66-83 and then argue that a case of *prima facie* obviousness has been made based on that assumption. "[T]he examiner's assumptions do not constitute the disclosure of prior art." *In re Rijckaert*, 9 F.3d 1531, 1533-34, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1998).

Applicant respectfully requests that the rejection of claims 10-24 and 66-83 as anticipated by or obvious over Ngan be withdrawn.

Rejection of claims 25, 26, 84, and 85 as obvious over Ngan

The examiner also rejected claims 25, 26, 84, and 85 as obvious over Ngan. Claims 25, 26, 84, and 85 depend from allowable claims and are allowable therewith.

The examiner also has not pointed to a teaching or suggestion in Ngan of the claimed structure "wherein said outer surface comprises a chromium content from about 10 atomic % to

about 40 atomic % X in relation to the chromium content." Nor has the examiner pointed to a teaching or suggestion in Ngan of the claimed structure "wherein said outer surface comprises a chromium content and about 25 atomic % X in relation to the chromium content." The examiner has not pointed to a teaching or suggestion in Ngan that would motivate a person of ordinary skill in the art to modify Ngan in the manner required to result in the claimed metallic component. The examiner therefore has not established a case of *prima facie* obviousness of claims 25, 26, 84, and 85 over Ngan. *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

Applicant respectfully requests that the rejection of claims 25, 26, 84, and 85 as obvious over Ngan be withdrawn.

CONCLUSION

For all of the foregoing reasons, Applicant respectfully requests allowance of all of the pending claims. The Commissioner is hereby authorized to charge any fees in connection with this response, or to credit any overpayment, to Deposit Account No. 50-0997 (SwRI-2834-03) maintained by Paula D. Morris & Associates, P.C.

Respectfully submitted,



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